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10/829,188	04/22/2004	Larry W. Kunkel	200314328-1	6056

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EXAMINER	
UNELUS, ERNEST	
ART UNIT	PAPER NUMBER
2181	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/12/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/829,188	KUNKEL ET AL.	
	Examiner	Art Unit	
	Ernest Unelus	2181	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 October 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3-11 and 13-28* is/are pending in the application.

4a) Of the above claim(s) *2 and 12* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3-11 and 13-28* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *22 April 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

RESPONSE TO AMENDMENT

Claim rejections based on prior art

Applicant's arguments filed 10/27/2006 have been fully considered but they are not persuasive.

The applicant argues that the Brown reference does not disclose using at least one FET configured to monitor at least one signal.

However, the applicant amended the claim to recite 'at least one FET each configured to directly or indirectly monitor at least one signal presented at each of the at least one connector', which is more broadly than 'at least one FET configured to monitor at least one signal', as the applicant argues. 'Directly or indirectly' is not presented as part of the applicant's argument.

Base on this limitation, Brown discloses where the control circuit 132 is using the FET 134 to control (monitor) the power signal (signal PWR) presented at each of the at least one connector (connector 104) [see col. 6, lines 49-56 and fig. 1].

I. INFORMATION CONCERNING OATH/DECLARATION

Oath/Declaration

1. The applicant's oath/declaration has been reviewed by the examiner and is found to conform to the requirements prescribed in **37 C.F.R. 1.63.**

II. INFORMATION CONCERNING DRAWINGS

Drawings

2. The applicant's drawings submitted are acceptable for examination purposes.

III. ACKNOWLEDGEMENT OF REFERENCES CITED BY APPLICANT

3. As required by **M.P.E.P. 609(C)**, the applicant's submissions of the Information Disclosure Statement dated March 22, 2004 is acknowledged by the examiner and the cited references have been considered in the examination of the claims now pending. As required by **M.P.E.P 609 C(2)**, a copy of the PTOL-1449 initialed and dated by the examiner is attached to the instant office action.

IV. REJECTIONS BASED ON PRIOR ART

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. **Claims 1-6, 8, 10-16, 18, 20, and 23-28** are rejected under 35 U.S.C. 102(b) as being anticipated by Brown (US pat. 5,568,610).

10. As per **claim 1**, Brown discloses "A mating detection circuit **(detection circuit 100 in fig. 1)** constructed and arranged to determine whether at least one connector **(edge connector**

102) of an expansion card **(expansion card 101 in fig. 1)** is mated with a corresponding connector **(connector 104 in fig. 1)** of a computer system **(planar 106 in fig. 1)** in which the expansion card is configured to be installed **(col. 4, lines 47-53 discloses "Referring now to FIG. 1, a side view and partial schematic and block diagram is shown of a detection circuit 100 according to the present invention. In this embodiment, the primary portion of the detection circuit 100 is implemented on an expansion card 101, which is adapted for mating to a corresponding connector 104 mounted to a planar 106 of a computer system")**.

11. As per **claims 2 and 12**, Brown discloses "The circuit of claim 1, **[see rejection to claim 1 above]** "wherein the mating detection circuit is further constructed and arranged to monitor at least one signal related to an associated signal presented at each of the at least one connector" **(see col. 3, lines 45-54)**

12. As per **claims 3, 13, 25, and 28**, Brown discloses "wherein for each of the at least one connector, each monitored signal is one of either the same as, provided by, derived from or controlled by the associated signal presented at the connector" **(see col. 3, lines 45-54).**

13. As per **claims 4 and 14**, Brown discloses "wherein the mating detection circuit generates at least one mating status signal each representing the mating status of a combination of one or more of the at least one connector" **(see col. 3, lines 45-54).**

14. As per **claims 5 and 15**, Brown discloses "wherein the at least one mating status signal is

provided to the computer system" **(see col. 3, lines 45-54).**

15. As per **claims 6, 16, and 26**, Brown discloses "wherein the at least one mating status signal controls a state of one or more bits in the computer system" **(see col. 3, lines 45-54 and col. 5, lines 1-2).**

16. As per **claims 8 and 18**, Brown discloses "wherein the at least one monitored signal is voltage signals and wherein the mating detection circuit comprises **(see col. 3, lines 45-54)**: at least one FET **(FET 134 in fig. 1)** each having its source coupled to a ground potential, its gate driven by an associated one of the at least one monitored signal, and its drain connected to a voltage source and an output node from which one of the at least one mating status signal is generated **(see fig. 2 and col. 3, lines 45-54).**

17. As per **claim 10**, Brown discloses "wherein the mating detection circuit is located on the expansion card" **(see col. 3, lines 45-54).**

18. As per **claims 11 and 23**, Brown discloses "An expansion card **(expansion card 101 in fig. 1)** for insertion into an expansion slot of a computer system, comprising **(see fig. 1)**: at least one connector **(edge connector 102 in fig. 1)** configured to mate with a corresponding connector **(connector 104 in fig. 1)** of the computer system **(planar 106 in fig. 1) (see fig. 1)**; and a mating detector **(detection circuit 100 in fig. 1)** constructed and arranged to determine the mating status of a selected one or more of the at least one connector **(col. 4, lines 47-53 discloses "Referring**

now to FIG. 1, a side view and partial schematic and block diagram is shown of a detection circuit 100 according to the present invention. In this embodiment, the primary portion of the detection circuit 100 is implemented on an expansion card 101, which is adapted for mating to a corresponding connector 104 mounted to a planar 106 of a computer system").

19. As per **claim 20**, Brown discloses "The expansion card of claim 11, **[see rejection to claim 11 above]** "wherein the at least one connector comprising one or more of the group consisting of: at least one card connector and at least one cable connector' **(see edge connector 102 in fig. 1)**.

20. As per **claim 24**, Brown discloses "wherein the determining means comprises: means for monitoring at least one signal each related to the mating status of the selected one or more connectors **(see col. 3, lines 45-54)**; and means for generating at least one mating status signal each representing the mating status of any combination of one or more of the selected one or more connectors **(see col. 3, lines 45-54)**.

21. As per **claim 27**, Brown discloses "A method for determining whether a connector of an expansion card is mated with a corresponding connector of a computer system having an expansion slot configured to receive the expansion card, comprising **(see col. 4, lines 47-53);** monitoring at least one signal each related to the mating status of the selected one or more connectors **(see col. 3, lines 45-54)**; and generating at least one mating status signal each representing the mating status of any combination of one or more of the selected one or more

connectors **(see col. 3, lines 45-54)**.

Claim Rejections - 35 USC § 103

22. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

23. **Claims 7, 17, 21, and 22** are rejected under 35 U.S.C. 103(a) as being unpatentable over Brown (US pat. 5,568,610) in view of Wunderlich (US pat. 6,122,6779).

24. As per **claims 7 and 17**, Brown discloses "The circuit of claim 6, "**[See rejection to claim 6 above]**, including "the at least one mating status signal **(See col. 3, lines 45-54)** but fails to disclose expressly a general purpose I/O (GPIO) bit.

Wunderlich discloses a general purpose I/O (GPIO) bit **(see col. 10, lines 47-48)**.

Brown (US pat. 5,568,610) and Wunderlich (US pat. 6,122,6779) are analogous art because they are from the same field of endeavor of a docking station of a computer.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to modify the automatically detection circuit of a movement of expansion card and to automatically perform the necessary procedures to facilitate the insertion or removal of the expansion card under power as described by Brown and a personal computer (PC) includes

numerous electronics components interconnected by a network of "busses as taught by Wunderlich.

The motivation for doing so would have been because Wunderlich teaches **"The South bridge 100 preferably provides 16 general-purpose I/O signals for various power management functions" (see col. 10, lines 56-58).**

Therefore, it would have been obvious to combine Wunderlich (US pat. 6,122,6779) with Brown (US pat. 5,568,610) for the benefit of creating the expansion card to obtain the invention as specified in claims 7 and 17.

25. As per **claim 21**, Brown discloses "The expansion card of claim 20, "**[See rejection to claim 20 above]**, including the at least one card connector but fails to disclose expressly an accelerated graphics card connector.

Wunderlich discloses an accelerated graphics card connector **(see col. 5, Line 33)**.

Brown (US pat. 5,568,610) and Wunderlich (US pat. 6,122,6779) are analogous art because they are from the same field of endeavor of a docking station of a computer.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to modify the automatically detection circuit of a movement of expansion card and to automatically perform the necessary procedures to facilitate the insertion or removal of the expansion card under power as described by Brown and a personal computer (PC) includes numerous electronics components interconnected by a network of "busses as taught by Wunderlich.

The motivation for doing so would have been because Wunderlich teaches **"Alternatively, the graphics controller 60 may couple to bridge logic 50 through an Advanced Graphics Port ("AGP") bus (not specifically shown). As one skilled in the art**

will understand, the graphics controller 60 controls the rendering of text and images on a display device 62. The graphics controller 60 may embody a typical graphics accelerator generally known in the art to render three-dimensional data structures on display 62" (see col. lines 56-58).

Therefore, it would have been obvious to combine Wunderlich (US pat. 6,122,6779) with Brown (US pat. 5,568,610) for the benefit of creating the expansion card to obtain the invention as specified in claim 21.

26. As per **claim 22**, Brown discloses "The expansion card of claim 20, "**[See rejection to claim 20 above]**, but fails to disclose expressly wherein the at least one cable connector comprises one or more of the group consisting of: a Universal Serial Bus (USB) cable connector; and a power connector.

Wunderlich discloses wherein the at least one cable connector comprises a Universal Serial Bus (USB) cable connector **(see fig. 2)**.

Brown (US pat. 5,568,610) and Wunderlich (US pat. 6,122,6779) are analogous art because they are from the same field of endeavor of a docking station of a computer.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to modify the automatically detection circuit of a movement of expansion card and to automatically perform the necessary procedures to facilitate the insertion or removal of the expansion card under power as described by Brown and a personal computer (PC) includes numerous electronics components interconnected by a network of "busses as taught by Wunderlich.

The motivation for doing so would have been because Wunderlich teaches, " **The USB 97 supports various peripherals, especially video peripherals such as video cameras for**

teleconferencing purposes" (see col. 6, lines 55-57).

Therefore, it would have been obvious to combine Wunderlich (US pat. 6,122,6779) with Brown (US pat. 5,568,610) for the benefit of creating the expansion card to obtain the invention as specified in claim 22.

27. **Claims 9 and 19** are rejected under 35 U.S.C. 103(a) as being unpatentable over Brown (US pat. 5,568,610) in view of Walsh et al. (US pat. 5,870,617).

28. As per **claims 9 and 19**, Brown discloses "The circuit of claim 8, "**[See rejection to claim 8 above]**, including "wherein the at least one mating status signal comprises one mating status signal generated at the drain of one of the connected FET located furthest from the ground potential **(See fig. 2 and col. 3, lines 45-54, which discloses the signal)** but fails to disclose expressly two FETs in series.

Walsh discloses more than one FETs in series **(see fig. 21, which discloses FETs 1976 and 1978 is series).**

Brown (US pat. 5,568,610) and Walsh et al. (US pat. 5,870,617) are analogous art because they are from the same field of endeavor of a docking station of a computer.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to modify the automatically detection circuit of a movement of expansion card and to automatically perform the necessary procedures to facilitate the insertion or removal of the expansion card under power as described by Brown and a notebook computer inserts securely

against internal rear electrical connectors having a docking compartment in this embodiment to accept plurality of devices as taught by Walsh.

The motivation for doing so would have been because Brown teaches that having more that one FETs is preferable to achieve higher current. **(see col. 6, lines 62-63)**.

Therefore, it would have been obvious to combine Walsh et al. (US pat. 5,870,617) with Brown (US pat. 5,568,610) for the benefit of creating the expansion card to obtain the invention as specified in claims 9 and 19.

V. RELEVANT ART CITED BY THE EXAMINER

29. The following prior art made of record and not relied upon is cited to establish the level of skill in the applicant's art and those arts considered reasonably pertinent to applicant's disclosure. See **MPEP 707.05(c)**.

30. The following reference teaches execution of trial data.

U.S. PATENT NUMBER

US 6,401,157

US 2004/0156151

US 6,184,592

US 6,062,480

US 5,930,496

US 2004/0033734

US 6,665,764

US 6,804,740

US 6,460,106

US 2003/0093607

VI. CLOSING COMMENTS

Conclusion

a. STATUS OF CLAIMS IN THE APPLICATION

31. The following is a summary of the treatment and status of all claims in the application as recommended by **M.P.E.P. 707.07(i)**:

a(1) CLAIMS REJECTED IN THE APPLICATION

32. Per the instant office action, claims 1, 3-11, and 13-28 have received a final action on the merits.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

b. DIRECTION OF FUTURE CORRESPONDENCES

33. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ernest Unelus whose telephone number is (571) 272-8596. The examiner can normally be reached on Monday to Friday 9:00 AM to 5:00 PM.

IMPORTANT NOTE

34. If attempts to reach the above noted Examiner by telephone is unsuccessful, the Examiner's supervisor, Mr. Donarld Sparks, can be reached at the following telephone number: Area Code (571) 272-4201.

The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

January 08, 2007

Ernest Unelus
Examiner
Art Unit 2181

DONALD SPARKS
SUPERVISORY PATENT EXAMINER